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Abstract

Communication is urged between theorists of human development and practitioners in early childhood education. Major psychological theories on maturation, child development, child behavior, personality formation, and affective and intellectual development are summarized and their effects on nursery school practices from the 1920's to the present are described. Three models of early childhood education are chosen to illustrate the diverse types of programs available for young children today. The key features of the Bank Street model, the Kansas model, and the Ypsilanti model are described, compared, and contrasted. Each program's theoretical conceptions of human nature are analyzed to illustrate the models' fundamental differences about the sources of human development. Conclusions are that (1) teachers should be aware of philosophical assumptions and psychological theories in early childhood education models and (2) the absence of consensus on the "right" way to educate young children should lead to continued experimentation and receptivity to psychological theories and educational strategies. [Not available in hard copy due to marginal legibility of original document.] (DR)

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THE INFLUENCE OF THEORETICAL CONCEPTIONS OF HUMAN DEVELOPMENT ON THE PRACTICE OF EARLY CHILDHOOD EDUCATION*

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Recently there was an exchange between two members of a college faculty, who were politely disagreeing over some matter of policy. After a series of assertions and counter-arguments, one of the professors said, "I know you believe you understand what you think I said, but I'm not sure you realize that what you heard is not precisely what I meant to say."

Somehow, that exchange was a bit like the history of communication between early childhood educators, on the one hand, and child development theorists, on the other. It has been, to put it kindly, a less than perfect communication.

I bring this up at the outset, in order to reveal a bias. It is a bias which sees nothing to be lost, and just possibly something important to be gained, if the practitioners of early childhood education on the one hand, and the theorists of human development on the other hand, make serious efforts to engage in meaningful dialogue.

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Rousseau (1911), in the preface to Emile, wrote as follows:

> We know nothing of childhood; and with our mistaken notions the further we advance the further we go astray. The wisest writers devote themselves to what a man ought to know, without asking what a child is capable of learning. They are always looking for the man in the child, without considering what he is before he becomes a man... Begin thus by making a more careful study of your scholars, for it is clear that you know nothing about them.

Rousseau's attack upon the cruel, punitive education of his day was, at the same time, a plea to love childhood with its pleasures and its delightful instincts. "Why rob these innocents," he asked, "of the joys which pass so quickly, of that precious gift which they cannot abuse? Why fill with bitterness the fleeting days of childhood, days which will no more return for them than for you? As soon as they are aware of the joy of life, let them rejoice in it, so that when God calls them home they may not die without having tasted the joy of life." (Rousseau, J. J., Emile, Everyman translation, pp. 42-43. Quoted by Rusk, R. R. Infant Education, p. 21.)

My first point, and possibly my most important point, is that society's answers to the questions posed by Rousseau in the 1700's, are still in the process of being formulated. I would find it personally of more than passing interest, could Rousseau be persuaded to join us for this discussion today,

to solicit his comments on such various topics as Head Start and Follow-through, talking typewriters for 3 year olds, Arthur Jensen, Jean Piaget, and others. Unfortunately, I have not succeeded in finding any way to persuade him to join us today.

Yet surely even Rousseau would have to agree that there have been, over the years, significant attempts to understand the child, to conceptualize his development in theoretical systems which make some kind of sense. I hope he would also agree that the theoretical systems which have been devised do bear, at least potentially, some kind of meaningful relationship to the educational strategies which we employ with children.

Over the years, early childhood education has enjoyed rather complex and interesting relationships with a wide range of adjacent disciplines: social and behavioral sciences, biology, and medicine, religion, philosophy, and others. As individuals, some of us may even have experienced a sort of prolonged minor identity crisis, viewing early childhood education either as our original or our adopted parent discipline, while simultaneously viewing psychology or sociology or some other field as another parent discipline. Of course, having two parents is not, <u>per se</u>, the cause of an identity crisis. Some traditions even maintain that having two parents is commendable. The identity crisis is precipitated, however, when neither parent

quite recognizes the existence of the other one, let alone acknowledging the fact of a relationship which has produced a child who wishes his parents would get married!

To get a bit more specific: some of us in the field of psychology have had occasion to speak to other psychologists and remind them that early childhood educators are asking significant questions, sometimes even answerable questions, which deserve some earnest efforts to achieve answers. The psychologist ought to be able to bring to bear some of his special skills, because many of the questions are questions of developmental psychology.

Similarly, we have taken the opportunity when it has arisen, to remind our friends and colleagues in early childhood education that the behavior of children is meaningful within the framework of principles of human behavior and development which have been formulated by the psychologist over the years.

I view this occasion today as an opportunity to review some aspects of interrelationships between psychological formulations and the practice of early childhood education. In the next few minutes, as I attempt to do this, it will be obvious that the idea of such interrelationships was not my invention. I make no such claim. Instead, my role is more to recall to your attention some of the points of contact and interaction, in the hope that it might somehow contribute to

to our common objective of serving the best interests of the child, and thereby the best interests of society. I believe this was Rousseau's objective too.

Let us consider sketchily some aspects of intellectual development, for certainly the psychologist has made much comment about the nature of mental development, and certainly the educator has a vital stake in the child's mental growth. But the relationship between the two fields, vis a vis mental development, has never been a simple one.

Early childhood education did not arise primarily because the psychologist decreed that it should. As Madame Montessori commented,

> We do not start from the conclusions of experimental psychology. That is, it is not the knowledge of the average sense conditions according to the age of the child which leads us to determine the educational applications we shall make. We start essentially from a method, and it is probable that psychology will be able to draw its conclusions from pedagogy so understood, and not vice versa. (Montessori, 1965, p. 167.)

Psychologists played both leader and follower roles, in relation to the forces shaping early childhood education. In some instances they functioned indirectly, influencing the general cultural movement toward recognition of certain principles of human development. Teachers of young children siezed, sometimes eagerly and uncritically, those formulations of the psychologist which made sense to them, and which helped

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them to rationalize the kind of relationship they wished to maintain with their children.

In the formative years of early childhood education, Montessori stands out as the clearest example of a pioneer who attempted to organize an education system on the basis of articulated conceptions of the child's intellectual characteristics. Even Montessori, however, as we have noted, placed pedagogy first and psychology second. Nevertheless, her writings reveal some implicit assumptions about the nature of intellectual development. Her critics, notably William H. Kilpatrick (1914), rejected those assumptions, claiming they were based on a faculty psychology which had outlived its usefulness a half-century earlier. In some of her statements Montessori appears to hold the position that the child's nature as given at birth contains all that the child is to become, and this in such fashion that we should tend the child as the gardener does the plant, assured that the natural endowment would properly guide its own process of unfolding. "The child is a body which grows and a soul which develops," she wrote; . . . "We must neither mar nor stifle the mysterious powers which lie within these two forms of growth, but must await from them the manifestations which we know will succeed one from another. . . If any educational act is to be efficacious, it

will be only that which tends to help toward the complete unfolding of the child's individuality." (Quoted from Kilpatrick, 1914, p. 9).

The traditions of Rousseau, Pestalozzi, and Froebel are evident in this philosophy, in that the child nature is essentially good, the educational process is an unfolding of that which was given at birth, there was a tendency to accept the older faculty psychology and, along with it, the disciplinary aspects of sense training.

Montessori was also influenced by Seguin in her emphasis on training the senses. The question of what was being trained, in the sense training exercises of Montessori, is never as explicit as one would wish. Clearly it was not assumed to be limited to the improvement of functioning of the sense organ per se. But Montessori had little to go on in the way of a psychology of central cognitive processes, and left her reader at times with the feeling that training in sensory experiences should lead directly and analogously to the education of specific mental faculties:

> It is exactly in the repetition of the exercises that the education of the senses consists; their aim is not that the child shall know colours, forms, and the different qualities of objects, but that he refine his senses through an exercise of attention, of comparison, of judgment. These exercises are true intellectual gymnastics. Such gymnastics, reasonably directed by means of various devices, aid in formation of the intellect,

> just as physical exercises fortify the general health and quicken the growth of the body. The child who trains his various senses separately, by means of external stimuli, concentrates his attention and develops, piece by piece, his mental activities, just as with separately prepared movements he trains his muscular activities. These mental gymnastics are not merely psycho-sensory, but they prepare the way for spontaneous association of ideas, for ratiocination developing out of definite knowledge, for a harmoniously balanced intellect. (Montesscri, 1965, pp. 360-361.)

The ratiocination she refers to, that is, the achievement of logical reasoning processes, she is thus claiming arise directly from the exercise of sensory processes, through a planned program of mental gymnastics. Thus it seems fair to say that Montessori held implicit assumptions about child development which considered some sort of interaction between the unfolding processes regulated by genetic factors, and the stimulus factors of the environment. We will return to this idea a bit later.

First, let's review some other historical events. America s first nursery schools appeared in 1914, following their earlier establishment in England, According to Lawrence Frank (1962) there were only three nursery schools in the United States in the early 1920's. Presumably the intent of these earliest schools was an educational one, as they were associated with major universities such as Chicago, Columbia, and Vassar College. But the nursery school movement was really the result of a

complex of economic and social forces: the industrial revolution, economic poverty, war, urbanization, the decline of the birth rate, the progressive education movement, and the growth of medical, social and behavioral sciences.

For some, the early childhood movement really began with the opening of the Yale Psycho-Clinic Guidance Nursery in 1926, under the direction of Arnold Gesell. But during the 1930's the great impetus to large scale program development was the depression: three thousand nursery school units serving 65,000 needy children were organized under the Federal Emergency Education Program (Gesell, 1949, p. 259).

World War II provided another impetus, with educational programs developing to serve thousands of preschool children of working mothers. The emphasis on personal development and adjustment, socialization, and emotional development was based on a positive philosophy of the importance of the early years in personality formation. But it was clear that the stimulation of intellectual processes was expected to await the readiness which came from within the child. The wide differences in intellectual endowment were to be respected; to tamper too much with these givens was to jeopardize the fundamental emotional needs of the child. We had, in effect, pitted the cognitive <u>against</u> the emotional, which is paradoxical since our theme and watchword was, "The whole child!"

But the assumption, so widely held, that a child is ready for external stimulation toward social and personal development objectives long before he is ready for stimulation toward intellectual objectives, seems not to have been questioned during the formative years of the early childhood education movement.

Looking back now, some reasons for this become quite apparent. The basic text in child study by Norsworthy and Whitley (1923) was the distilled knowledge of all that was good in child development for a generation of teachers of young children. It cited the genetic conclusions of Galton on the inheritance of intelligence, and the nativistic side of Thorndike, leading psychologist of the day, whom they quote as follows:

> The importance to educational theory of a recognition of the fact of original nature and of exact knowledge of its relation, shown in determining life's progress, is obvious. It is wasteful to attempt to create, and folly to pretend to create, capacities which are assured or denied to an individual before he is born. (Quoted by Norsworthy and Whitley, 1923, p. 19)

For Norsworthy and Whitley certain mental traits were obviously handed down from parent to child: strong will, memory for faces, musical imagination, abilities in the languages and mathematics, artistic talents, likes and dislikes, and temperamental qualities such as quick temper, vivacity,

lovableness, and moodiness. Such writings as theirs were the basic primers in the preparation of America's first teachers of young children.

Their attempts to marshal support from the psychologist, Thorndike, are of interest; in other circles it was not Thorndike's nativistic views of the inheritance of intelligence which were his significant contributions; rather, he was and is known for his extensive writings on learning processes, his generation of learning principles summarized under fundamental laws such as the law of exercise or use, and the law of effect. Thorndike gave heavy emphasis to the role of external stimulation as a motivating force in learning and learned behavior, but it was not that emphasis which the early child development leaders chose to recognize.

There was, of course, much psychological research of the 20's and 30's which tended to reinforce a maturationist position. The animal research of Coghill (1940) and Carmichael (1926); the twin studies of McGraw (1935), and the Hilgard study (1933) on the training of preschool children in specific skills are classic examples of research supporting the general notion that practice is efficacious only after the development of maturational readiness. Such studies became a cornerstone of the Gesell tradition in the child development nursery school in America.

The influence of Arnold Gesell in the preschool education movement could hardly be overstated. He viewed the intellect as a reflection of total organismic growth. It originated from within and was organized by experience. Sensory-motor experiences lent shape to mental life but were not the impetus for it. It came from within, unfolding in a natural and more-or-less inevitable sequence of stages of alternating equilibrium and disequilibrium. The influence of Gesell's teacher, G. Stanley Hall, seems obvious in the following quotation from Gesell:

> Whence come these developmental trends and fluctuations? They are not the product of the contemporary environment; they are primarily the expressions of the ancient processes of evolution. Man was not made in a day. It took vast ages to bring to their present form his capacities to walk, to talk, to manipulate with his hands, to contrive with his brain, to see with such rich perception, and to foresee with far-reacing imagination. In some condensed way the child must retraverse these immense ages. This too takes time. His organism must gather up and reweave the essential ancestral threads. In the vast complexities of the nervous system he matches the vastness of his ancestral past. (Gesell, 1949, p. 13.)

Recall that it was the psychologist G. Stanley Hall who had taken the provocative position that the individual child retraces, in his personal development, the essential stages of evolutionary development of the species. It was Hall who popularized the expression, "Ontogeny recapitulates phylogeny." Arnold Gesell was Hall's prize pupil.

To me, it seems quite relevant today to recall to our thinking some of the implicit philosophical assumptions underlying the teaching strategies which arose early in the preschool education movement. Gesell appears not to have generated any hypotheses about the importance of environmental stimulation in producing the cyclical development through periods of equilibrium and disequilibrium. In this respect, as in some others, he stands in contrast to Jean Piaget, as we will note a bit later, even though the general notion of equilibration as a process in mental development is present in the writings of both Gesell and Piaget.

It must be said that Gesell tried to avoid the schism of mind and body in the growing child, that his concept of mental life truly integrated a functioning neuromusculature, as well as an emotional organization and a personal-social organization. All of these had a pattern, a shape; all grow; all are inextricably interacting with each other in a total, functioning organism. It does not seem relevant to question whether intelligence, for Gesell, was a general factor or some combination of specific aptitudes; for him the mind was an expression of the child's total action system. It manifested itself, formally, through the four areas of the clinical evaluation: motor, language, personal-social behavior, and adaptive behavior.

Seen thus, the implications for early childhood education were clearly that experiences in all four areas provide shape and structure to the patterning which arises from the genetic ground plan. Experiences are important, and the timing of those experiences is critical. The preschool program should be geared to the ages and stages of child development, derived from empirical observation of the child.

Susan Isaacs (1930) was one of the small handful of people whose ideas on intellectual development were well integrated with the practice of preschool education. She appears to have distinguished between intellectual level, or capacity, on the one hand, and the intellectual processes having implications for the strategies and content of the program, on the other. She prescribed ways in which the teacher can capitalize on a rich environment, with its objective and social components, making use of situations as they arise spontaneously in the free play of children to increase the scope and richness of the child's mental life. Nativistic, in the sense of assuming fixed genetic limits to intelligence, Isaacs nevertheless saw the importance of putting that intelligence to work in the child's pursuit of practical and theoretical interests, arising naturally in a stimulating environment.

Specifically, for Isaacs, this meant (a) the application of knowledge already possessed to new situations or problems; (b) the direct increase of knowledge, in contrast to the application of what is known; and (c) the social interchange of knowledge, in what she called cognitive intercourse. She elaborated these three types of intellectual development processes, and noted that they overlap, in that a given instance of intellectual progression may involve more than one type. Thus a child's cognitive behavior was not to be thoughtof as a set of single-unit acts of relation-finding, but as a complex dynamic series of adaptive reactions and reflections. "These crystallize out here and there into clear judgments or definite hypotheses or inferences which, however, gain all their meaning from their place in the whole movement of the child's mind in its attempt to grasp and organize its experience." (1930, p. 52).

Isaacs recognized some of the implications of Piaget's early work, but she criticized Piaget for attributing too much to maturation and too little to experience, stressing that this was an extremely important issue in the development of strategies in early education. For Isaacs, intellectual development was the growing ability to group disparate items into more and more complex wholes. She referred to this as the process of noetic synthesis, and saw it as the basis for improvement in deductive reasoning. What limited the young

child, in her view, was not the inability to apprehend logical relationships, but the inability to deal with ideational systems of more than a low degree of complexity.

She also criticized the stage notion of Piaget on the grounds of both theoretical issues and the clinical method by which Piaget's system had been constructed. The children she studied, instead of falling neatly within one of Piaget's stages, gave evidence of many different levels of functioning, co-existing simultaneously within a child. Whatever psychological coherence there was to intellectual development, for Isaacs it had the elasticity and vital movement of a living process, not the rigid formality of a logical system. It was most fully expressed in the continuity of development in noetic synthesis, and in the way in which the later and more highly integrated forms draw their life from the simpler and earlier.

But Isaacs appears to have had less of a direct impact on teaching strategies than other writers, notably Ruth Updegraff (1938). Updegraff provided rich examples of teaching techniques which elaborated means-end relationships for the child, and which were explicitly intended to foster the child's anticipation of the consequences of his own actions. Other characteristics of intelligence, for Updegraff, were resourcefulness, imaginativeness, independence in thinking, general information,

critical ability to evaluate one's own ideas and those of others, the ability to profit from experience, explanation, direction and suggestion, and a constructive and progressively developing interest in some activities in which he can follow through ideas of his own.

Updegraff was less interested in the nature-nurture dichotomy than was Isaacs. She also stressed the importance of motivation as a vital force in cognitive growth, and devised teaching strategies to foster motivation. In certain respects, we find in Ruth Updegraff's writings of the late 1930's an anticipation of the cognitive-developmental approach of the 1960's.

But the concept of mental age and its use in the IQ ratio were deeply engrained in the thinking of educators by the time the early childhood education movement was established. Studies on the gifted had been undertaken, and the infamous Kallikak family had been used to illustrate the genetic inheritance of feeblemindedness. There is substantial evidence to support the analysis of J. McV. Hunt (1961) who has argued in the present decade that six major assumptions about intelligence became serious impediments in our progress toward a realistic and meaningful strategy in dealing with the intellectual development of young children:

1. A belief in fixed intelligence;

2. A belief in predetermined development;

3. A belief in the fixed and static, telephone switchboard nature of brain function;

4. A belief that experience during the early years, and particularly before the development of speech, is unimportant (for mental growth);

5. A belief that whatever experience does effect later development is a matter of emotional reactions based on the fate of instinctual needs;

6. A belief that learning must be motivated by homeostatic need, by painful stimulation, or by acquired drives based on these.

To this list I would add the assumption which seems generally to have been made by educators, although certainly not by theorists, that intelligence is a more or less monolithic entity. Thus if two children obtain different scores on a test, it is because one of them has more of the entity, the other less. A corollary is that if two children obtain the same score, their intelligence is equivalent.

My point here is closely related to an argument developed by Irving Sigel (1963), who has noted a variety of ways in which the use of intelligence tests limits our understanding of the intelligence of a child. It is this assumption of a

monolithic quality which interferes most. And I would add parenthetically that in my opinion, whatever else may be good or bad about the recent explosive article on intellectual development by Arthur Jensen (1969), it serves as a strong support for the notion that intelligence in children is not just one entity, but a plurality of functions, which we still need to understand.

We ought to note in passing that it was during the formative years of the early childhood education movement, following the gradual acceptance of the Gesell position, along with the notions of fixed general intelligence, IQ constancy, etc., that Beth Wellman (1945), Harold Skeels,(1937), and Marie Skodak (1936) published a series of articles questioning these assumptions. Wellman reported, for instance, that children with nursery school experience did better on subsequent intelligence tests than non-nursery controls. Foster children, tested in infancy, increased in test score when placed in good homes. Children who were placed in good orphanages improved over those placed in poor orphanages. In general, environmental pluses yielded upward movement of intellectual level, while environmental minuses yielded downward movement.

The studies were criticized widely as being methodologically unsound, by writers who referred caustically to the ". . .

magic carpet wandering of the elusive IQ" in Iowa children. One writer (Simpson, 1939) generously spoke of Dr. Wellman's work as ". . .not quackery, but. . . statistical incompetence under the influence of wishful thinking."

My point here is not so much that Wellman was right and the rest of us wrong as it is that we simply failed to recognize the importance of what she way saying. It was inconsistent with the prevailing assumptions about intellectual development. Had we listened, we might be further along today in understanding the issues on intellectual development raised recently by Jensen (1969).

During the 40's and 50's the heavy emphasis on affective, personal-social development reached a high peak. It became the dominant theme and philosophy of the child development nursery school. Highly influential books, widely used as manuals in the preparation of teachers over the past 20 years (Read, 1960) give not so much as a single reference to mental or intellectual or cognitive development. The Mid-century White House Conference on children and youth had as its theme the healthy personality, and structured itself around Erickson's (1950) Neo-Freudian analysis of psychosexual development. This added visibility to the vital importance of the early years, but omitting the child's cognitive processes.

This emphasis on early affective development, and relative de-emphasis on intellectual processes, in the training of

nursery school teachers, during the postwar decades cannot be accounted for by any failure of writers in child psychology to give attention to intellectual development. The topic was clearly present and stressed in the psychological literature of the period (Jersild, Landreth, Hurlock, Rand, Sweeny and Vincent, Breckenridge, and many others.) It had clearly been present in the earlier writings, both in Europe and America. What was not present, however, and what was to become in the 1960's a major threat to the peaceful adjustment of the world of preschool education, was a clear set of propositions about the effects of early stimulation on cognitive processes. We had long since buried Beth Wellman and, in the process, had buried alive a source of disturbance that we had not known how to cope with.

It has only been in the 1960's that early childhood educators have been forced to a new awareness of the importance of early stimulation to cognitive development, as well as to psychosexual development. It has also been in the 1960's that the educators have been confronted with the many and varied interpretations of Piaget's theory of knowledge and intellectual development. But paradoxically, neither Piaget nor teachers have as yet brought his theory clearly into the ordinary classroom.

Some interpreters of Piaget hold that his is a theory of acquired information-processing skills, and that any intellectual content can be taught early if the teaching is adapted to the child's cognitive level. Others, in the child development tradition, appeal to Piaget's ideas as a part of the body of maturational theory represented by Gesell and Isaacs. In the latter view, cognitive abilities should be allowed to just grow, while the educator should concentrate on facilitating the child's emotional and social adjustment.

But as Kohlberg (1968) has noted, Piaget himself rejects the maturation-learning dichotomy, just as he rejects the cognitive-emotional dichotomy. His position is better described as cognitive-developmental, which in Kohlberg's view is in the same tradition as that of Montessori, and of the late developmental psychologist Dr. Heinz Werner.

At this point, let's turn our attention to some of the various types of programs for young children which are available today. It's apparent they have arisen from a variety of rather diverse sources, and that they are based upon quite different theoretical conceptions of the nature of child development.

I choose three illustrative programs, and the choice is a purely arbitrary one on my part. I trust that my mentioning them does not equate them with "good" or "bad" in your thinking,

as it certainly does not in mine. I choose them, rather, as representative of the diversity which exists, with fundamentally different philosophical assumptions about human development underlying each. I am referring to these: (1) The Bank Street model, (2) the Kansas model, and (3) the Ypsilanti model.

Clearly there are others which could be discussed, and which are being discussed, at this and other conferences. It happens that these are currently being employed, along with five other models of early childhood education, as a part of a pilot project called "Planned Variation" in Head Start.

Let me summarize very sketchily some of the key features of each of these, and then take note of their roots in distinctive theoretical conceptions of the nature of human development.

What has come to be known as the Bank Street model for early childhood education is, in some respects, the traditional university laboratory-school program. Its basic objective is that of facilitating the personal development of the child, to enable the child to become both deeply involved and autonomous in his own learning. In the classroom, there are activities planned both for the group and for the individual, but the child is quite free to explore, to investigate, to organize material

and in general to exploit his world of social and objective resources. The role of the teacher is regarded as a vital one, in that the teacher not only provides for a wide range of sensory, motor, and language experiences, but also serves as a consistent adult in whom the child invests a psychological trust. In balance, the Bank Street model stresses personal-social development and does not give high priority to the acquisition of specific academic competencies, so far as the preschool child is concerned.

The Kansas model employs a behavior analysis approach, and by contrast with the Bank Street model its balance is clearly in the direction of the acquisition of specific pre-academic competencies. The goal is to teach the child needed skills by means of systematic reinforcement procedures. The teacher's role is that of behavior modifier. Instruction is highly individualized, and the strategy involves the use of carefully planned programmed materials, allowing the child to progress through sequences of materials at his own rate. A token economy is employed, with tokens being administered to the individual child, contingent upon his performance of some act or behavior sequence defined in advance as being desirable, or appropriate in relation to the goals of the program. Each token is accompanied by verbal reinforcement also; but while the verbal reinforcement does not purchase anything for the

child, the tokens may be exchanged for one or more desired activities or privileges during the course of the preschool day. There is nothing inherent about the token economy which limits its use to specific academic behaviors such as pre-reading, writing, numerical concept formation, etc.; indeed it has been employed experimentally in relation to a wide range of personal, social and sensory-motor behavioral objectives. In my own experience, however, I have seen it in operation primarily in relation to the shaping of more or less academic type competencies.

The Ypsilanti model is best described as a cognitive program, derived from the cognitive-developmental theories of Piaget. Language training and development of the self-concept are recognized ingredients, but the key feature which separates this from other programs is that the learning objectives, stated as behavioral goals to be achieved through learnihg activities, are derived explicitly from Piagetian concepts. The curriculum is essentially intellectual, i.e. grounded in concept formation processes. A child's level of performance must be determined so that materials and experiences can be arranged for him in a sequential fashion, moving from the simple to the complex and from the concrete to the abstract. The teacher's role in providing this sequence of experiences is quite apparent.

One point in passing is that all three of these programs assume not only a vital role for the teacher, but also a strong involvement of parents as an essential ingredient and necessary factor in the operation of the program. Clearly, however, the precise role that parents are expected to play, would vary from one to the other.

At this point then it seems appropriate to ask, what theoretical conceptions of the child, or of the nature of human development, seem to be implicit in the emergence of each of these three types of programs? If we were to ask, for example, where each of these programs stand with respect to the nature-nurture issue - that is, the relative emphasis each gives to heredity vs. environment, I think we should see some interesting contrasts.

The Bank Street model comes nearest to illustrating a historical convergence of Arnold Gesell with Erik Erikson, both of whom laid great stress on the epigenetic development of the individual from his inherited ground plan. Both stressed the timing of stages of personal development. Gesell did so in the fluctuating spiral-shaped movement toward maturity through interlocking stages of equilibrium and disequilibrium. Erikson did so in the progressive, dynamic movement of the human person through a pre-programmed sequence of encounters

with significant crises, in his efforts to achieve the fruits of maturity, namely, the integrated self. The notion of readiness for new experience, based on the present stage or degree of maturity which is genetically controlled and more or less shaped by experience, is fundamental to these two theoretical positions, and is fundamental in the philosophy of the Bank Street model.

The obvious contrast here is with the Kansas model, which arises from the behavioristic psychology tradition of John Watson, and B. F. Skinner. Watson's rejection of any concerns for hereditary determinants of behavior are historically well documented and well known. More recently, Skinner's elaboration of the role of reinforcement in shaping the behavior of animals and man has also become well-known. The Kansas model has emerged from intensive and scholarly investigation of the use of the reinforcement strategies with young children in relation to a wide variety of kinds of behavior. These have ranged from the frequency with which a child climbs on a jungle gym to the frequency with which a child initiates interaction with peers or with adults. Understandably, this approach is less concerned with hereditary limitations to behavior than it is with the strategies for shaping the behavior of individual children in relation to defined objectives. The approach is heavily dependent on

quantitative measures; it employs the strategy of counting or tallying the frequency with which a child exhibits given bits of behavior, and it is relatively unconcerned with the way a child feels about whatever behavior he may be exhibiting.

The cognitive-developmental approach illustrated with the Ypsilanti model stands apart from the other two models with respect to the nature-nurture issue. It would not be fair to say that Piaget stands between Erickson and Gesell, on the one hand, and Skinner on the other. Realistically, it seems more fair to say that Piaget has never quite heard of any of these gentlemen! But I am just being facetious - sort of - in trying to say that for Piaget there is no real issue of nature vs. nurture, or of heredity vs. environment, since the child's development is a series of transactions between the presently existing structures and the givens of his environment.

It seems, then, that each of the three models assumes something fundamentally different about the sources of human development. The Bank Street model assumes that development is initiated from within, and regulated by internal mechanisms established genetically. It does not deny the importance of experience, but does not put experience first. The Kansas model assumes that the important aspects of development are regulated by contingencies in the environment which reinforce, and thus shape, the patterns of behavior which become the

life style of the individual. It does not deny the genetic regulation of development, but does not place genetics first. The Ypsilanti model, after Piaget, defines development as an interactional process, but the interaction is less that of heredity-environment than it is one of organism-environment. That is, the presently existing structure (specifically, schema for Piaget) interact with the environment in a series of assimilatory-accommodatory processes. This is the concept of equilibration which as a developmental psychological process does not rely upon the notion of a nature-nurture dichotomy.

Another somewhat philosophical dimension on which we might compare the three models cited is that of the degree of concern for the so-called psychological needs of the child.

Clearly this is the prime consideration for the Bank Street model. It is essentially a humanistic model which gives more than passing lip-service to the emotional or feeling aspects of the child's total experience. Indeed it places these in a more fundamental position in child development than any question of academic competence. The latter structure of academic competence is assumed to arise as an attractive and well-proportioned edifice on top of the more fundamental foundation of healthy attitudes toward self and others.

Presumably the cognitive-developmental approach of the Ypsilanti program, to the extent that it is true to its Piagetian heritage, does not regard the intellectual-affective distinction as being a real issue. That is, his mind and his feelings are not separate or separable entities within a child, but are reflections of the ongoing interaction between present structure and available environment.

An important feature of the cognitive-developmental approach is its assumptions regarding the sources and stimuli to development. In somewhat gross and superficial terms, the traditional child development view is that growth comes from within, and the behavior analysis view is that growth is a function of the learning contingencies which exist in the environment. Piaget, by contrast, views growth as the result of disequilibrium and the effort to deal with it - labeled the equilibration process. Disequilibrium results from an imbalance between the presently organized mental structures and the experiential material which is assimilated to those structures. It is the child's use of energy to accommodate those mental structures to the demands of the assimilated materials which is psychological growth.

One charge that has sometimes been leveled against the Kansas model by more or less tradition child development nursery school teachers is that it is not responsive to the fundamental

needs of the child, particularly his emotional needs and even more specifically his need for unconditional affection from adults. It strikes some nursery school teachers as being cold, mechanistic, manipulative, and devoid of the warm affection which has been long regarded as essential to the child's healthy development.

That particular criticism deserves careful examination, however. The behavior analyst can point with flawless logic to the revised behavior of children who have presented a wide range of individual problems to teachers and to parents and perhaps even to the child himself. He can demonstrate with facts and figures and frequency counts the clearly improved behavior of the individual child. This improved behavior, in turn, has brought the child into a positive, constructive cycle of interaction with his objective and social environment, so as to increase the probability that he will elicit affectionate responses from others, both children and adults.

In attempting to conclude this somewhat rambling discussion, I would say I've been arguing that the basic models of early childhood education have their roots in philosophical assumptions and psychological theory. This body of assumptions and theory deals with fundamental conceptions of the nature of human development. In my own experience, teachers have varied widely in their degree of awareness of these basic issues, but it is my

subjective opinion that one's effectiveness as a teacher of young children is supported by her awareness and sensitivity to such issues.

A second point I have tried to make is that the absence of homogeneity, or consensus on the "right" way to educate young children at this stage of our history is both asset and liability. While it certainly makes it difficult for early childhood education to speak with one voice to the rest of the world, one can hardly deny that the opportunities for providing a rich variety of experiences for children have never been greater. This brings with it the opportunities and responsibilities for evaluating the outcomes of a variety of strategies. But it would be, in my view, a tragic error on our part if the professional field of early childhood education, were to yield to the forces within us which cry out for one true gospel of educational strategy. It would be a hollow and phony victory to achieve consensus if that were to mean giving up our efforts to respond to the questions raised by Rousseau, and the charge to make a more careful study of our children themselves. My point, I believe, has practical implications; I have heard voices saying, in effect, that we should not expose children to (Type X) educational program because in someone's opinion (Type X) program is bad for them. In one instance I have even heard voices saying that a given experimental project designed explicitly to

evaluate a particular kind of educational strategy, should be modified to make it look more like some other kind of strategy. The obvious question, if we were to yield to this kind of pressure, is: How then can we ever know the potential strengths and weaknesses of the program we started out to evaluate? For those who might respond with a protest: "But we already know that (Brand X) is bad!" I would remind us that in 1939 we "already knew" that early stimulation had nothing to do with intellectual development, and it was this "knowledge" which prevented us from experimenting seriously to explore the implications of the Wellman findings.

One's awareness of the broader themes of psychological development of children, and his sensitivity to the nature of human development, must certainly be questioned if he adopts a stance which says, in effect, that if one doesn't treat children "my way" then he must be hurting them!

It has been my argument, however, that as we engage in the process of experimenting with programs, we should make clear to ourselves and to the rest of the world just what our philosophical assumptions are about the nature of human development. One positive net effect on our society of a more thorough sensitivity to such issues ought to be a decreasing vulnerability to those voices which would have us believe there can be only one "true gospel" of early education.

At the present, it does not seem possible to predict with confidence just what educational strategies will survive the test of time in their present forms, and which will become articulated within larger educational and strategic philosophies. We are in a period of vigorous growth and great vitality. We are raising penetrating and provocative questions which go well beyond the mechanics of how to support and run a nursery school, and which penetrate deeply into the challenging issues of how we shall provide each child with the stimulation and resources which will allow him to be and become his best self. We are finding <u>some</u> of those relevant stimuli and providing <u>some</u> of the resources for <u>some</u> of the children now. Our task is beginning to take shape.

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